

# North American porcupine

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The **North American porcupine** (*Erethizon dorsatum*), also known as the **Canadian porcupine** or **common porcupine**, is a large rodent in the New World porcupine family. The beaver is the only larger rodent in North America. The porcupine is a caviomorph rodent whose ancestors rafted across the Atlantic from Africa to Brazil over 30 million years ago, and then migrated to North America during the Great American Interchange after the Isthmus of Panama rose 3 million years ago.<sup>[4]</sup>

They range from Canada, Alaska, and into northern Mexico. They are commonly found in coniferous and mixed forested areas but have adapted to harsh environments such as shrublands, tundra and deserts. They make their dens in hollow trees or in rocky areas.

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## Etymology

The word *porcupine* comes from the middle or old French word *porcespin*, which means spiny pig. Its roots derive from the Latin words "porcus" or pig and "spina" meaning thorns.<sup>[5]</sup> Other colloquial names for the animal include **quill pig**. It is also referred to as the **Canadian porcupine** or **common porcupine**.<sup>[6]</sup> The porcupine's genus species name, *Erethizon dorsatum* can be loosely translated as "the animal with the irritating back." There are several native American names such as the Lakota name *pahin* meaning quill<sup>[7]</sup> and the Chipewyan name *tsʼl*.<sup>[8]</sup>

## Evolution

The North American porcupine is descended from South America

### North American porcupine

**Temporal range:**  Pleistocene - Recent



### Conservation status



Least Concern (IUCN 3.1)<sup>[1]</sup>

### Scientific classification

Kingdom:	Animalia
Phylum:	Chordata
Class:	Mammalia
Order:	Rodentia
Family:	Erethizontidae
Subfamily:	Erethizontinae
Genus:	<i><b>Erethizon</b></i>
	F. Cuvier, 1823
Species:	<i><b>E. dorsatum</b></i>

### Binomial name

***Erethizon dorsatum***

(Linnaeus, 1758)

### Subspecies<sup>[2]</sup>

- *E. d. dorsatum*
- *E. d. bruneri*

where all new world porcupines or hystricomorphs evolved. *Erethizon* appeared in North America shortly after the two continents joined together in the later Tertiary period. Other hystricomorphs also migrated but *Erethizon* was the only one to survive north of Mexico. There are no known fossils attributed to hystricomorphs prior to the late Tertiary period. Some fossils such as species from the family Paramyidae show resemblance to the porcupine but they are so primitive and generalized that they could be ancestors to all later rodents.

South American hystricomorphs first appeared in the Lower Oligocene period. It is thought they migrated from Africa, ancestors of the old world porcupines or Hystricidae or they originated based on a migration of the North American Paramyidae.<sup>[9]</sup>

The earliest appearance of *Erethizon dorsatum* is from the Pleistocene era found along the Arroyo del Cedazo near Aguascalientes, Mexico.<sup>[10]</sup>

## Subspecies

Seven subspecies of *Erethizon dorsatum* are recognized. They are subdivided by different ranges across North America. By far the most common is *E. d. dorsatum*, which ranges from Nova Scotia to Alberta and from Virginia to the Yukon. *E. d. picinum* occupies a small range in northeastern Quebec and Labrador. *E. d. couesi* is the most southern ranging from northern Mexico to Colorado. *E. d. bruneri* can be found in the midwest from Arkansas to Montana. The last three are western species. From south to north they are *E. d. epixanthum*, *E. d. nigrescens*, and *E. d. myops*.<sup>[10]</sup>

## Description



*E. d. dorsatum*, sleeping in tree, Ottawa, Ontario

Porcupines are usually dark brown or black in color, with white highlights. They have a chunky body, a small face, short legs, and a short thick tail. This species is the largest of the New World porcupines and is one of the largest North American rodents, second only to the American beaver in size. The head-and-body

length is 60 to 90 cm (2.0 to 3.0 ft), not counting a tail of 14.5 to 30 cm (5.7 to 11.8 in). The hindfoot length is 7.5 to 9.1 cm (3.0 to 3.6 in). Weight can range from 3.5 to 18 kg (7.7 to 39.7 lb), although they average under 9 kg (20 lb).<sup>[11][10]</sup> Their upper parts are covered with thousands of sharp, barbed hollow spines or quills (actually modified hairs), which are used for defense. Porcupines do not throw their quills, but the quills detach easily and the barbs make them very difficult to remove once lodged in an attacker. The quills are normally flattened against the body unless the animal is disturbed. The porcupine also swings its quilled tail towards a perceived threat.

Porcupines are nearsighted and slow-moving. Porcupines are selective in their eating; out of 1000 trees in the Catskill forest, one or two are acceptable lindens, and one is a bigtooth aspen. Consequently, the porcupine has "an extraordinary ability to learn complex mazes and to remember them as much as a hundred days afterward".<sup>[12]</sup>

- *E. d. couesi*
- *E. d. epixanthum*
- *E. d. myops*
- *E. d. nigrescens*
- *E. d. picinum*

### Synonyms

*Erethizon dorsata*<sup>[2]</sup>

*Erethizon dorsatus*<sup>[3][nb 1]</sup>



A juvenile male North American porcupine. Young males spend their first winters with their mothers.

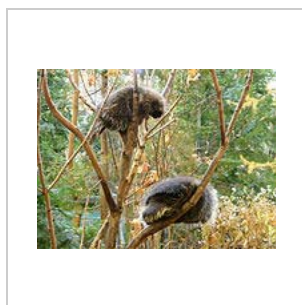
The porcupine is the only native North American mammal with antibiotics in its skin. Those antibiotics prevent infection when a porcupine falls out of a tree and is stuck with its own quills upon hitting the ground. Porcupines fall out of trees fairly often because they are highly tempted by the tender buds and twigs at the ends of the branches. The porcupine, wolverine, and the skunk are the only North American mammals that have black and white colours because they are the only mammals that benefit from letting other animals know where and who they are in the dark of the night.<sup>[12]</sup>

## Behavior

Porcupines are mainly active at night (nocturnal); on summer days, they often rest in trees. During the summer, they eat twigs, roots, stems, berries, and other vegetation. In the winter, they mainly eat conifer needles and tree bark. They do not hibernate but sleep a lot and stay close to their dens in winter. The strength of the porcupine's defense has given it the ability to live a solitary life, unlike many herbivores, which must move in flocks or herds.

Porcupines breed in the fall and the young porcupine (usually one) is born in the spring, with soft quills that harden within a few hours after birth. When porcupines are mating, they tighten their skin and hold their quills flat, so as not to injure each other.

They are considered by some to be a pest because of the damage that they often inflict on trees and wooden and leather objects. Plywood is especially vulnerable because of the salts added during manufacture. The quills are used by Native Americans to decorate articles such as baskets and clothing. Porcupines are edible and were an important source of food, especially in winter, to the Natives of Canada's boreal forests. They move slowly (having few threats in its natural environment which would give it the need to flee quickly) and are often hit by vehicles while crossing roads. Natural predators of this species include fishers (a cat-sized marten), wolverines, coyotes, wolves, bears, and cougars as well as humans. The only known avian predators of this species are golden eagles and great horned owls.<sup>[13][14]</sup> Due to its dangerous quills, the North American porcupine is often avoided as prey and even their largest predators (like wolves and cougars) have been known to be harmed or killed by their quills. Most predators of the porcupine will attempt to stun or cause massive blood loss with an attack to the face and then will spin them over to their unprotected underside. The porcupine can embed several painful quills directly into a predator's body (usually through the face or feet, depending on how the predator attacks), which may save their own lives. Due to their agility and aggression, adult male fishers (females are not large enough to attack a full-grown porcupine) are particularly adept porcupine hunters, though even this species primarily hunts other prey and it may take up to 30 minutes of repeated attacks to the porcupine's face before it can overtake the large rodent.<sup>[15][16]</sup> To avoid predation, porcupines often climb trees at the first sign of danger, since most of their natural predators cannot pursue them once they're arboreal.<sup>[17]</sup>



Pair in a tree, Quebec



Bark of Sugar Maple eaten by a porcupine



Tracks in sand (human handprint shown for scale)

## References

### Notes

- ITIS claims that *Erethizon dorsatus* is a valid name while *Erethizon dorsatum* is invalid, assuming that *Erethizon* is a masculine Latin noun; however it is in fact a Greek participle, not a Latin noun.

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## Further reading

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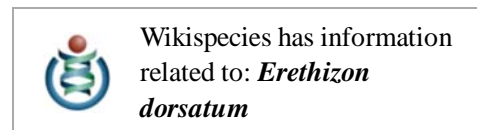
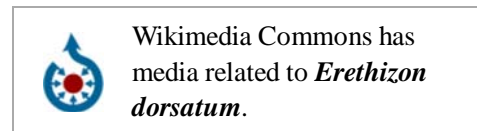
## External links

- Porcupine videos, photos, and facts (<http://www.arkive.org/north-american-porcupine/erethizon-dorsatum/>) Arkive.org

Retrieved from "http://en.wikipedia.org/w/index.php?title=North\_American\_porcupine&oldid=654525027"

Categories: IUCN Red List least concern species

| Animals described in 1758 | Erethizontidae | Fauna of Northern Mexico | Mammals of Canada | Mammals of the United States



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